

We Claim:

1. A tool for contacting a molten metal at elevated temperature, wherein the tool is made from a Ni-Be alloy containing about 1.0 to less than 3.0 wt.% Be.
2. The tool of claim 1, wherein the tool is a mold or mold insert.
3. The tool of claim 2, wherein the Ni-Be alloy has a thermal conductivity of at least about 20 Btu/ft.hr.F.
4. The tool of claim 3, wherein Ni-Be alloy is underaged.
5. The tool of claim 2, wherein the Ni-Be alloy has a thermal conductivity of at least about 25 Btu/ft.hr.°F.
6. The tool of claim 5, wherein the hardness of the Ni-Be alloy is 90% or less of its peak aged hardness.
7. The tool of claim 6, wherein the hardness of the Ni-Be alloy is 75% or less of its peak aged hardness.
8. The tool of claim 5, wherein the Ni-Be alloy contains at least one additive selected from the group consisting of Al, C, Co, Cr, Cu, Fe, Mg, Mo, Ti, Y and the Rare Earth Elements.
9. The tool of claim 5, wherein the alloy contains about 1.0 to 2.0 wt.% Be.
10. A tool for contacting a molten metal at elevated temperature, wherein the tool is made from an underaged Ni-Be alloy, the amount of Be in the Ni-Be alloy being sufficient Be so that a continuous coating of beryllium oxide forms on the surfaces of the tool but not so great that the alloy becomes brittle.
11. A process for solidification of a molten metal selected from aluminum, aluminum alloy, magnesium, magnesium alloy, copper, copper alloy, zinc and zinc alloy comprising charging the molten metal into a die, the die optionally having a die insert, and allowing the molten metal to solidify therein, wherein the die or die insert or both are made from a Ni-Be alloy containing about 1.0 to less than 3.0 wt.% Be.
12. The process of claim 11, wherein the Ni-Be alloy contains about 1.0 to 2.0 wt.% Be.
13. A Ni-Be alloy for use in making molds for solidifying molten metals, the alloy containing about 1.0 to 3.0 wt.% Be, the alloy having been underaged so that the hardness of the

alloy is less than 90% of the hardness of a peak aged alloy of the same composition, the alloy having a thermal conductivity of at least about 20 Btu/ft.hr.°F.

14. The alloy of claim 13, wherein the alloy contains about 1.0 to 2.0 wt.% Be.